COMPELLING COMMENTS

Fast Absorbing Cat-Gut Sutures

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Before becoming mainly synthetic in the 20th century, sutures consisted primarily of natural materials.[1] Catgut, an absorbable suture, is of historical interest as its use dates back to 175 A.D.[2] Despite the name, catgut has no relation to the common household pet. The word is likely derived from "kitgut," a word for a fiddle with strings constructed from sheep intestine. The catgut suture was, in fact, made from the small intestine submucosa of sheep and the small intestine serosa of cattle.[2]

Catgut is absorbed rapidly compared to other absorbable sutures. Catgut elicits an inflammatory response from the host, leading to the breakdown and absorption of the suture. This process results in catgut retaining little tensile strength after two weeks.[2] Professor Joseph Lister was one of the first individuals to study the absorbability of catgut. He experimented by tying catgut around the carotid artery of a calf. After the calf was killed thirty days later, Lister reexamined the knot and found that the suture was no longer present and had been replaced with living tissue. Lister applied his own antiseptic techniques during his experimentation with the suture, as he understood the risk of infection when exposing patients to raw intestine.[3]

Further advancements in the development of absorbable sutures were made, leading to the development of sutures such as polyglycan 910 and polyglycolic acid. These sutures provide additional tensile strength and knot security, while eliciting less tissue inflammation.[1]

Though absorbable gut sutures are not used superficially for skin closure, they are used by dermatologists in sewing split thickness skin grafts in sensitive areas of the face and in the mouth to promote rapid healing and obviate the need for suture removal. Historically, the use catgut for generations was an imperative stepping stone for the development of fast absorbing sutures still used today.

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